- 8. FCC Rule and Order 96-326, paragraph 28
- 9. Summary of FCC 96-487 at para. 6 Federal Register Jan. 22, 1997, Vol. 62, No. 14, pages 3232-3240
- 10. Letter from Dr. Robert Cleveland Jr. Ph.D., FCC Office of Engineering and Technology, dated January 23, 1997, to Ms. Lucinda Grant, Electrical Sensitivity Network, P.O.Box 4146, Prescott, AZ, 86302
- 11. Environmental Protection Agency (EPA) Proposed Alternatives for Controlling Public Exposure to Radiofrequency Radiation, in the Federal Register, Wed. July 30, 1986, Vol. 51, No. 146, pages 27317-27339
- 12. For example see FCC 96-326, footnote 1 on page 1.
- 13. Points (a) to (d) from Nov. 9, 1993 letter of M.Oge, EPA Director of the Office of Radiation and Indoor Air, to the Commission regarding ET-Docket 93-62
- 14. Discussed futher in section #7.8, and already discussed in section #4.2.2. Noted in Ad-Hoc Association FCC 96-326 Petition at pg. 16 and at footnote 111.
- 15. The Commission has stated, "The basis for these limits, as well as the basis for the 1982 ANSI limits that the Commission previously specified in our rules, is an SAR limit of 4 watts per kilogram. [FCC 96-326, paragrah 3].
- 16. D. Mitchell et al, "Hyperactivity and disruption of operant behavior in rats after multiple exposures to microwave radiation," Radio Science, 12(6S), pp. 263-271, 1977, and see EPA (1984, pg. 5-62 (at footnote 31 below)
- 17. M.I. Gage, "Microwave Irradiation and Ambient Temperature Interact to Alter Rat Behavior Following Overnight Exposure," Journal of Microwave Power, Vol. 14(4), pp. 389-398, (1979), and see EPA 1984, pg. 5-63, (1979b), (at footnote 31 below)
- 18. J.O. DeLorge, "Operant Behavior and Colonic Temperature of Macaca mulatta Exposed to Radio Frequency Fields at and Above Resonant Frequencies," Bioelectromagnetics, 5:233-246, (1984)
- 19. M.I. Gage and W.Mark Guyer, "Interaction of ambient temperature and microwave power density on scheduled-controlled behavior in the rat," Radio Science, Vol 17 (5S), pp. 179-184, (1982)
- 20. Thomas et al. "Comparative Effects of Pulsed and Continuous Wave 2.8 GHz Microwaves on Temporally Defined Behavior," Bioelectromagnetic, 3(2) pp 253-258, (1982)
- 21. J.Schrot, "Modification of the Repeated Acquistion of Response Sequences in Rats by Low Level Microwave Exposure," Bioelectromagnetics, 1(1) pp. 89-99, 1980.and see EPA (1984, pg. 5-62 (at footnote 31 below)
- 22. Thomas, J. "Microwave Radiation and Dextroamphetamine: Evidence of Combined Effects and Behavior of Rats," Radio Science, 14,(6S) 253-258, 1979, and see EPA (1984, pg. 5-63 (at footnote 31 below)
- 23. S. Szmigelski et al. Accelerated Development of Spontaneous and Benzopyrene-Induced Skin Cancer in Mice Exposed to 2450 MHz Microwave Radiation," Bioelectromagnetic, 3(2) pp. 179-191, 1982
- 24.W. Switzer et al, "Long Term Effects of 2.45 GHz Radiation on the Ultrastructure of the Cerebral Cortex and on the Hematologica Profiles of Rats," Radio Science, 12(6S), pp 287-293 25. E. Berman, "Observations of Mouse Fetuses After Irradiation with 2.45 GHz Microwaves," Health Physics, 35, pp. 791-801, 1978
- 26. K. Oscar et al., "Microwave Alteration of the Blood-Brain Barrier System in Rats," Brain Research, 126, pp. 281-193, 1977. EPA reports in 1984 (see footnote 31) that at 300 microwatts/sq. cm. the SAR was 0.1 W/kg. The apparent blood-brain barrier breakdown effect

occured as low as 30 microwatts/sq. cm. for certain pulsed modulations. Hence, since the same wavelength was used for both power densitiles, the average SAR is estimated to be 0.01 W/kg, which is 1/400th of 4 W/kg.

27. V. Belokrinitskiy, "Destructive and Reparative Processes in Hippocampus with Long Term Exposure to Nonionzing Microwave Radiation," in U.S.S.R. Report, Effects of Nonionizing Electromagnetic Radiation, No. 7, JPRS 81865, pp. 15-20, Sept. 27, 1982.

Note: in this report an effect deemed adverse by the author was observed at 10 microwatts per sq. cm. at for a 12.6 cm wave length (2380 MHz). Durney (see footnote 28) shows that for a worst case the average SAR = 0.4 W/kg per 1 mW/sq. cm., thus exposure should be about 0.004 W/kg or 1/1000th of 4 W/kg. Thus, an estimate of 0.0067 W/kg is conservatively high, and 0.0067 is 1/600th of 4 W/kg.

- 28. Durney, 1986: Radiofrequency Radiation Dosimetry Handbook, October 1986, USAFSAM-TR-85-73, Brooks Air Force Base, TX, 78235-5301 and reference [B21] in IEEE 1991
- 29. Letter from R. W. Niemier of the National Institute of Occupational Safety and Health (NIOSH) to the FCC, dated January 11, 1994, regarding ET Docket 93-62
- 30. Letter from L.J.Gill of the Food and Drug Administration, Center for Device and Radiological Health, to the FCC, dated November 10, 1993 regardeing ET Docket 93-62
- 31. "Biological Effects of Radiofrequency Radiation", U.S. Environmental Protection Agency, September 1984, #EPA-600-8-83-026F
- 32 J.D. D'Andrea, O.P. Gandhi et al. (1986), "Intermittent Exposure of Rats to 2450 MHz Microwavesat 2.5 mW/cm2: Behavioral and Physiological Effects," Bioelectromagnetics 16:207-210 (1995), and also the average SAR is given in WHO, 1993 (footnote xx below)
- 33. J.O. de Lorge and D'Andrea, 1990, "Behavioral Effects of Electromagnetic Fields," in Biological Effects and Medical Applications of Electromagnetic Energy, ed. O.P. Gandhi, Prentice Hall, New York, 1990, Chapter 13, 319-338. This review of the literature reports, "Based on results of these studies, it is possible to specify that a threshold for significant behavioral effects at 2450 MHz is between 0.7 and 0.4 W/kg."
- 34. H.Lai, A.W. Guy et al. (1994), "Microwave Irradiation Affects Radial -Arm Maze Performance in the Rat," Bioelectromagnetics 15:95-104
- 35. H.Lai, A.W. Guy et al. (1989), "Low-Level microwave irradiation and central cholingeric systems, Pharmacol.Biochem. Behavior 33: 131-138
- 36. See IEEE C95.1-1991 RF standard page 28 where the 4 non-human primate studies are identified whose SAR thresholds were used to determine this standard's hazard threshold. They are identified as IEEE C95.1-1991 references B15, B17, B18, B19. For each of these references either D'Andrea or de Lorge is the author or co-author.
- 37. Environmental Protection Agency letter from Margo Oge dated November 9, 1993 to the Federal Communications Commisson regarding ET Docket 93-62
- 38. See in "General Comments," pg. 1 of NIOSH letter of R. Niemeir to the Commission, Jan. 11, 1994 at footnote 29.
- 39. "EPA gives commission's new RF guideline a clean bill of health," in Radio Communications Report, February 17, 1997, reported by Jeffrey Silva
- 40. C.K. Chou, A.W. Guy et al, "Long Term, Low-Level Microwave Irradiation of Rats," Bioelectromagnetics 13:469-496(1992)
- 41. Szudzinski et al., "Acceleration of the Development of Benzopyrene-Induced Skin Cancer in Mice by Microwave Radiation," Achives of Dermatological Reserach, Vol. 274: 303-312, 1982. 100 mice in each exposure condition were studied.
- 42. R. Santini et al, "B16 Melanoma Development in Black Mice Exposed to Low-Level Microwave Radiation," Bioelectromagnetics Vol. 9: 105-107 (1988).

- 43. Salford, L, (1993) "Experimental Studies of brain tumor development during exposure to continuous and pulsed 915 MHz radio frequency radiation," in Biochemistry and Bioenergetics, 30: pg. 313-318]
- 44. S. Cleary et al, "Glioma Proliferation Modulated In Vitro by Isothermal Radiofrequency Radiation Exposure. Radiation Research 121(1): 38-45, (1990)
- 45. B. Hocking et al., "Cancer incidence and mortality and proximity to TV towers," Medical Journal of Australia, 1996, Vol. 165: 601-605
- 46. S. Szmigielski, "Cancer morbidity in subjects occupationally exposed to high frequency (radiofrequency and microwave) electromagnetic radiation," the Science of the Total Environment Vol. 180 (1996) 9-17
- 47. K. Mann et al., "Effects of Pulsed High-Frequency Electromagnetic Fields on Human Sleep," Neuropsychobiology, 1996, Vol. 33: 41-47
- 48. A.A. Kolodynski and V.V.Kolodynska, "Motor and psychological functions of school children living in the area of the Skrunda Radio Location Station in Latvia," the Science of the Total Environment, Vol 180, 87-93, 1996
- 49. N. Pitisyna et al, "Possible effect of geomagnetic disturbances on the incidences of traffic accidents (St. Petersburg 1987-1989) Physica Medica XI, 1995, reported in EOS, Transactions of the American Geophysical Union, Vol. 76, No. 44, October 31, 1995
- 50. Z. Balode, "Assessment of radio-frequency electromagnetic radiation by the micronucleus test in Bovine peripheral erythroctyes (blood cells), "the Science of the Total Environment Vol. 180 (1996) 81-85
- 51. A. Lillienfield, "Evaluation of health status of foreign service and other employees from selected Eastern European posts," 1978, the Johns Hopkins University School of Hygiene and Public Health, Department of Epidemiology, Baltimore, M.D. Final Report NTIS PB-288 163. Department of State, Washington, D.C., 1978
- 52. D. James, Jr of EPA., "Radiofrequency Environments in the United States," 15th IEEE International Conference on Communications, 1979, Boston, MA, June 10-14, vol. 2 of 4 pp. 31.4.1-31.4.5, also a selection in, J. Osepchuck, "Biological Effects of Electromagnetic Radiation," IEEE Press, New York, 1983, pg. 552-556
 53. EPA
- 54. I.Y.Belyaev, "Resonance Effect of Microwaves on the Genome Conformal State of E. coli Cells," Zeitschrift Naturforschung (in English), Section C, J. Bioscience 47:621-627. (referenced in: Bioelectromagnetics 17:166(1996)).
- 55. W.R. Adey, "Bioeffects of mobile communications fields: possible mechanisms for cumulative dose," in Mobile Communications Safety, ed. N.Kuster, Q.Balzano, J.C. Lin, Chapman and Hall, London/New York, 1997
- 56. Garaj-Vhrovac et al., "Comparison of chromosome aberation and micronuclei induction in human lymphocytes after occupational exposure to vinyl chloride monomer and microwave radiation," Periodicum Biologorium 92, 411-416, (1990)
- 57. Garaj-Vhrovac et al, "The correlation between the frequency of micronuclei and specific chromosome aberrations in human lymphocytes exposed to microwave radiation in vitro, Mutation Research, Vol. 281: 181-186
- 58. R.C. Mallalieu, "A Model of the Microwave Intensity Distribution within the U.S. Embassy in Moscow, (1965-1977), Report No.FS-80-166, The Johns Hopkins University Applied Physics Laboratory, Baltimore, Maryland, 1980.
- 59. Gilbert Omenn et al, "Risk Assessment and Risk Management In Regulatory Decision-Making," prepared by The Presidential/Congressional Commission on Risk Assessment and Risk Management, Washington, D.C., 1997

- 60. Environmental Protection Agency letter from Margo Oge dated November 9, 1993 to the Federal Communications Commisson regarding ET Docket 93-62.
- 61. Occupational Safety and Health Administration (OSHA) letter dated March 1, 1993 to the FCC from Stephen Mallinger, regarding proposed FCC RF guidelines in ET-Docket 93-62
- 62. M. A. Stuchly, "Evaluation of Electromagnetic Fields in Biology and Medicine." in Radiofrequency Radiation Standards: Biological Effects, Dosimetry, Epidemiology, and Public Health Policy, ed. B.Jon Klauenberg, M. Grandolfo, and D. Erwin, NATO Advanced Science Series vol. 274, Plenum Press, New York, 1995
- 63. Letter of July 25, 1996 from EPA Administrator Carol Browner to Reed Hundt, Chairman FCC commenting on new FCC RF safety approach in ET Docket 96-326
- 64. Letter of July 17, 1996 from Elizabeth Jacobson Deputy Director for Science, Center for Devices and Radiological Health, Food and Drug Administration to Mr. Richard Smith, Chief Office of Engineering and Technology, FCC regarding new approach of FCC to RF safety in ET-
- 65. Letter of August 2, 1996 from Gegory J. Baxter, Acting Director, Directorate of Technical Support, Occupational Safety and Health Administration to Mr. Richard Smith, Chief Office of Engineering and Technology, FCC regarding new approach of FCC to RF safety in ET-Docket 93-62
- 66. Letter of July 25, 1996 from Dr. Paul Schulte, Director, Education and Information Division, National Institute of Occupational Safety and Health, to Mr. Richard Smith, Chief Office of Engineering and Technology, FCC regarding new approach of FCC to RF safety in ET-Docket 93-62
- 67. Letter of October 8, 1996 from Norbet Hankin, EPA Office of Radiation and Indoor Air to David Fichtenberg regarding clarification of what the EPA Administrator meant by "adequate protection" in comments of July 25, 1996 to the FCC
- 68. Letter of January 17, 1997 from Mary D. Nichols, EPA Assistant Administrator for Air and Radiation to FCC Chairman Reed Hundt regarding clarification of letter of N. Hankin of Oct. 8, 1996
- 69. FCC 96-326, paragraph #1
- 70. FCC 96-326, paragraph #168
- 71. FCC 96-326, paragraph #169
- 72. Letter of Dr. Elanor R. Adair of John B. Pierce Laboratory of Yale University, dated March
- 14, 1996 to FCC Chariman Reed Hundt regarding ET-Docket 93-62
- 73. Letter of Dr. A.W. Guy, Emerius Professor, Center For Bioengineering, University of Washington, dated March 14, 1996 to FCC Chariman Reed Hundt regarding ET-Docket 93-62
- 74. International Radiation Protection Association (IRPA), "Guidelines on limits of exposure to radiofrequency electromagnetic fields in the frequency range from 100 kHz to 300 GHz," in Health Physics, Vol. 54, pg. 115-123, 1988
- 75: FCC Notice of Proposed Rulemaking (NPRM)
- 76. Environmental Health Criteria #137, "Electromagnetic Fields (300 Hz to 300 GHz), World Health Organization, Geneva, 1993.
- 77. FCC 96-326, Appendix C Final Rules, §1.1310, Note to introductory paragraph
- 78. Gandhi, O.P., "Advances in Dosimetry of Radio-Frequency Radiation and their Past and Projected Impact on the Safety Standards," Proceedings of IMTC Instrumentation and Measurement Technology Conference, April 20-22, 1988 San Diego, CA, pp.109-113, 1988
- 79. FCC 96-326, paragraph #92
- 80. FCC 96-326, paragraph #70

- 81. FCC 96-326, paragraph #139
- 82. FCC 96-326, paragraph #148, footnote 191
- 83. D.G. Hill, "A longitudinal study of a cohort with past exposure to radar: th MIT Radiation Laboratory Follow-Up Study," U-M-I Dissertation Information Service, Ann Arbor, MI. 1988. Reported in Footnote 84.
- 84. Potential Public Health Risks From Wireless Technology: Research Agenda for the Development of Data for Science Based Decision Making," Scientific Advisory Group on Cellular Telephone Research (now Wireless Technology Research, LTD), 1711 N. Street, Suite 200, Washington D.C tel: (202) 833-2800, fax: (202) 833-2801
- 85 R.B. Hayes et al, "Occupation and risk for testicular cancer: a case control study," Int. Epidemiology, 19(4): 825-831, 1990. Reported in footnote 84.
- 86. S. Selviniet al, "Distance and risk measures for the analysis of spatial data: a study of childhood cancers," Soc. Sci. Med. 34 (7): 769-777, 1992
- 87. Z. Djordjevic et al, "A Study of the health status of radar worker," 1979, Aviat. Space Evironn. Medicine, Vol. 50, No. 4, pg. 396-398.
- 88. C.D. Robinette et al, "Effects Upon Health of Occupational Exposure to Microwave Radiation (Radar)," American Journal of Epidemiology, Vol. 112, No. 1, pg. 39-53, 1980
- 89. S. Milham, "Increased mortality in amateur radio operators due to lymphatic and hematopoietic malignancies," American Journal of Epidemiology, Vol 128, pg. 775-786
- 90. State of Hawaii, Department of Health, study of cancer in census tracts based on whether or not they contain broadcast towers, 1986
- 91. Thomas, T.L et al. "Brain Tumor Mortality Risk Among Men With Electrical and Electronics Jobs: A Case-Control Study," Journal of the National Cancer Institute, Vol. 29, No.2, August, 1987, pg. 233+237
- 92. L.E. Rosengren et al, "Astrogliosis in cerebral cortex of gerbils after long-term exposure to 1,1,1 tricholoethane," Scand. J. Work. Environ. Health, 1985, Vol 11, pg. 447-455
- 93. S. Hamburger et al, "Occupational Exposure to Non-Ionizing Radiation and an Association with Heart Disease: An Exploratory Study," Journal of Chronic Diseases, Vol. 36, No. 11, pp.791-802, 1983. Also listed as a IEEE C95.1-1991 paper in the Final List of Papers Reviewed for IEEE C95.1-1991 ong page 64 in the Appendix of this standard.
- 94. 1992 ANSI/IEEE, Section 4, Table 3 allows partial body exposures to be up to but less than 20 fold the square of the Electric field and Magnetic field and equates this to a local SAR of less than 8 W/kg. For 27 MHz this equates to a power density in mW/sq. cm of [20 * (1842/27)2] / [3.77 * 1000] = 24.7 mW/sq. cm.
- 95. National Council For Radiation Protection and Measuremeth, "Biological Effects and Exposure Criteria For Radiofrequency Electromagnetic Fields," Bethesda, MD, April 1986.
- 96. H. Poliack, Professor Emeritus, George Washington University, "Microwave Anxieties: The U.S. Embassy in Moscow, A Case In Point," in CH1435-7/79/0000-0168, 1979 IEEE
- 97. O.P. Gandki et. al., "Specific Absorption Rates and Induced Current Distributions In An Anotomically Based Human Model For Plane Wave Exposures," Health Physics, Vol. 63(3):281-290, 1992
- 98. D.A. Hill, "The Effect of Frequency and Grounding on Whole-Body Absorption of Humans in E-Polarized Radiofrequency Fields," Bioelectromagnetics, Vol. 5, No. 2, pg. 131-146, 1984 99. L. Salford et al. "Permeability of the blood brain barrier induced by 915 MHz electromagnetic radiation, continuous wave and modulated at 8, 16, 50, and 200 Hz," Microscopy Research and Technique, Vol 27, pg. 535-542, 1994.

- 100. Reference B26 in 1992 ANSI/IEEE is referred to on page 21 of 1992 ANSI/IEEE, and is the paper by O.P. Gandhi, "Advances in Dosimetry of Radio-frequency Radiation and their Past and Projected Impact on the Safety Standards, Proceedings of IMTC Instrumentation and Measurement Technology Conference, April 20-22, 1988, San Diego, CA, pp. 109-113, 1988. This paper uses the values for the electrical characteristics of tissues based upon those values given in footnote 101.
- 101. C. Johnson and A.W. Guy, "Nonionizing Electromagnetic Wave Effects in Biological Materials and Systems," Proceedings of the IEEE, 60, pp. 692-718, 1972.
- 102. IEEE standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz, (1991 IEEE C95.1-1991), section 5, page 21.

 103. Submission of O.P. Gandhi to Dr.R.F.Cleveland Jr. of the Commission, dated October 13, 1993, the paper titled, "Electromagnetic Absorption in the Human Head For a Proposed 6 GHz Handset, by O.P. Gandhi et al, Department of Electrical Engineering, University of Utah, and submitted for publication to the IEEE Transactions on Electromagnetic Compatibility. Reference #19 (which is footnote 102) is referred to on page 7 of this paper.
- 104 FCC Fact Sheet #2, September 1997, "National Wireless Facilities Siting Policies", answer to question #7 refers to the Institute of Electrical and Electronics Engineers as among "expert entities".
- 105 See IEEE C95.1-1991, Section 6, Rationale, pg. 5, "Therefore, the applicability of SAR considerations was limited to the frequency range from 0.1 MHz to 6.0 GHz."
- 196. Durney, 1986: Radiofrequency Radiation Dosimetry Handbook, October 1986, USAFSAM-TR-85-73, Brooks Air Force Base, TX, 78235-5301 and reference [B21] in IEEE 1991
- 107. Telecommunications Act of 1996 Version, Doc. No. 36840.02 February 12, 1996 page 448
- 108. H.I. Bassen, "RF interference (RFI) of medical devices by mobile communications transmitters," in Mobile Communications Safety, ed. N.Kuster, Q. Balzano, and J.C. Lin, Chapman & Hall, London and New York, 1997.
- 109. Office of Technology Assessment, "Wireless Technologies and the National Information Infrastructure," OTA-ITC-622, Washington D.C. U.S Gov. Printing Office, July 1995, pg. 241 110. E.S. Altpeter et al., "Study of Health Effects of Shortwave Transmitter Station of Schwartzenburg, Berne, Switzerland," University of Berne, Inst. for Social and Preventive Medicine, August 1995.
- 111. J. Goldsmith, "Epidemiological Evidence of Radiofrequency Radiation (Microwave) Effects on Health in Military, Broadcasting, and Occupational Studies", International Journal of Occupational and Environmental Health, Vol 1. No. 1, Jan-Mar, 1995
- 25. Conclusion: Given the above Commission should assure the above is met including that:
- (1) RF exposure should be minimized to the extent possible.
- (2) A RF health and safety program should exist as specified by OSHA and which mitigates any increase in worker risk
- (3) Protections provided by FCC rules, i.e. from body heating, should be stated, and effects (cancer) reported at levels below the FCC hazard threshold should be listed in FCC materials
- (4) No 'grandfathering' of facilities, but all Commission licensees should follow its new rules
- (5) Out-of-compliance conditions shall be detected, especially when tall transmitters are close to

nearby multi-story buildings resulting in out-of-compliance exposures at upper floor levels.

- (6) Reduce environmental exposures to 40% of present values associated with given internal rates of absorption of RF energy based on a computer method found valid by the FCC.
- (7) Reduce the FCC hazard threshold to no more than 15% of its current value based upon the accepted RF standard setting criteria of disruption of learned behavior and scientific papers acceptable for standard setting.
- (8) Determine that local regulation of RF exposure limits effects the "operation" of wireless transmitters and so is not preempted in the Telecommunications Act of 1996.
- (9) Determine that FCC exposures should be reduced to 5%, 1%, or even 0.1% of current standards, and if the Commission is not able to do so, to identify those effects as reported in this proceeding which occur at exposure levels such that protection limits 1/100th of the exposure levels at which these effects occur are below the exposure limits which the Commission may set. The public and workers which may be exposed so such levels should be notified that some evidence suggests that if the effects are real, that protection from these effects may not be provided by the Commission's limits.
- (10) Expsoure limits should not be so wide that "a reasonable person" would not want to live or work in areas with such high exposure conditions, 'reasonable' including one who is knowledgable of the effects reported in this proceeding and to be reported in the scientific literature.
- (11) The Commission should not 'take' property, per the 5th or 14th amendments where the use of property is substantially affected due to the level or other characteristics of the RF exposure.

The Commission should seek the evaluation of the federal health agencies, as noted above, concerning RF health claims made in this proceeding, since the Commission does not have expertise in this area, but is responsible that its limits be properly protective.

Respectfully Submitted

David Fichtenberg

Dated: June 10, 1997

Spokesperson for the Ad-Hoc Association of Parties Concerned About the Federal

Communications Commission's Radiofrequency Health and Safety Rules et al

P:O. Box 7577

Olympia, WA 98507 Tel: (206) 722-8306

teletenbey

FEDERAL COMMUNICATIONS COMMISSION WASHINGTON, D.C. 20554

January 23, 1997

Lucinda Grant
Electrical Sensitivity Network
P.O. Box 4146
Prescott, AZ 86302

Dear Ms. Grant:

Your letter of September 19, 1996, to Reed E. Hundt, Chairman of the Federal Communications Commission (FCC), was forwarded to this office for a response. Your letter related the concern you have over the future proliferation of telecommunications services and the effect this may have on individuals who are "electrically sensitive."

The FCC recently adopted guidelines for evaluating human exposure to radiofrequency (RF) emissions from FCC-regulated telecommunications sources (61 Fed. Register 41,006, 1996). These guidelines were based on recommendations made to the FCC by the various agencies of the U.S. Government which are responsible for human health and safety. These agencies include the Environmental Protection Agency (EPA), the Food and Drug Administration (FDA), the National Institute for Occupational Safety and Health and the Occupational Safety and Health Administration. All of these agencies have expressed their support for our guidelines and their appropriateness for protecting human health.

Since the FCC is not a health and safety agency, we have neither the jurisdiction or the resources to investigate the biological effects you describe. We must rely upon the agencies mentioned above for advice and guidance in such areas. Therefore, if you have evidence for harmful biological effects for which our guidelines do not provide protection, it is appropriate that you take this up with the agencies mentioned above, particularly the EPA and the FDA.

I hope that this information will be helpful. If you have any further questions please write this office directly, or you can call our RF Information Line at: (202) 418-2464.

Sincerely.

Robert F. Cleveland, Jr., Ph.D.

Office of Engineering & Technology
Federal Communications Commission